Title	*Canted Undulator ID Vacuum Chambers*			
Project Requestor	Greg E Wiemerslage			
Date	3/21/08			
Group Leader(s)	P. DenHartog			
Machine or Sector Manager	Efim Gluskin			
Category	Accelerator hardware and Insertion Device Upgrades			
Content ID*	APS_1254432	Rev.	3	3/21/08 3:17 PM

*This row is filled in automatically on check in to ICMS. See Note [1]

Description:

Start Year (FY)	2009	Duration (Yr)	2

Objectives:

To procure and fabricate the items necessary to install four additional canted undulator insertion device vacuum chambers with diple magnet and correctors in the storage ring.

Benefit:

Several sectors are planning or considering canted undulator configurations. Among these are sectors 13, 20, 33, and 34. The upgrade to a canted undulator configuration will enhance the capabilities of the Advanced Photon Source by allowing more available user beam time.

Risks of Project: See Note [2]

NA at this phase of the project.

Consequences of Not Doing Project: See Note [3]

The canted undulator vacuum chamber is a necessary component for the canted undulator configuration. The lead time for construction of a chamber is quite long and can obstruct the desired schedule for a beamline upgrade if it is not readily available.

Cost/Benefit Analysis: See Note [4]

Significant savings are realized with the fabrication of multiple chambers simultaneously. This proposal assumes the upgrade of existing sectors which allows the salvage and reuse of supports, NEG pumps, gauges, RGA, and other auxiliary vacuum equipment.

Description:

Fabrication of canted undulator insertion device vacuum chambers, which includes the extrusion machining, endbox fabrication and the labor costs of welding, cleaning, assembly and certification. It also includes the purchase of, NEG strip and carriers. Fabrication of dipole magnets and correctors and power supplies and controls.

Funding Details

Cost: ($K)
Use FY08 dollars.

Year	AIP	Contingency
1	180	
2	180	
3		
4		
5		
6		
7		
8		
9		
Total	360	10%

Contingency may be in dollars or percent. Enter figure for total project contingency.

Effort: (FTE)
The effort portion need not be filled out in detail by March 28

Year	Mechanical Engineer	Electrical Engineer	Physicist	Software Engineer	Tech	Designer	Post Doc	Total
1	0.15				0.3	0.1		0.55
2	0.15				0.3			0.45
3								0
4								0
5								0
6								0
7								0
8								0
9								0

Notes:

[1] **ICMS**. Check in first revision to ICMS as a *New Check In*. Subsequent revisions should be checked in as revisions to that document i.e. C*heck Out* the previous version and C*heck In* the new version. Be sure to complete the *Document Date* field on the check in screen.

[2] **Risk Assessment.** Advise of the potential impact to the facility or operations that may result as a consequence of performing the proposed activity. Example: If the proposed project is undertaken then other systems impacted by the work
include ... (If no assessment is appropriate then enter NA.)

[3] **Consequence Assessment.** Advise of the potential consequences to the facility or to operations if the proposal is not executed. Example: If the proposed project is not undertaken then ____ may happen to the facility. (If no assessment is appropriate then enter NA.)

[4] **Cost Benefit Analysis.** Describe cost efficiencies or value of the risk mitigated by the expenditure. Example: Failure to complete this maintenance project will result in increased total costs to the APS for emergency repairs and this investment of ___ will also result in improved reliability of ____. (If no assessment is appropriate then enter NA.)